

REMARKS/ARGUMENTS

Reconsideration of the above application in view of the above amendments and the below remarks is requested. Claim 1 has been amended to further define the invention.

In the Office Action, the Patent Office rejected claims 1, 3, 4, 7, 11, 17, and 18 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fujimori et al (US 6207343) in view of Kawata et al (US 5912102); rejected claims 6, 13, 14, 18, and 20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fujimori et al (US 6207343) in view of Kawata et al (US 5912102) further in view of Nitta et al (US 2002/0045130); rejected claims 5, 15, and 19 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fujimori et al (US 6207343) in view of Kawata et al (US 5912102) and in view of Nitta et al (US 2002/0045130) and further in view of Iwanaga et al (US 5962180). These rejections are traversed.

In the Office Action, the Patent Office rejected claims 1, 3, 4, 7, 11, 17, and 18 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fujimori et al (US 6207343) in view of Kawata et al (US 5912102). The Patent Office listed several components disclosed by Fujimori et al and admits that Fujimori et al do not disclose the use of a photosensizing agent (D) comprising a quinonediazide group. The Patent Office states that Kawata et al disclose a photosensitive agent that is composed of a quinonediazide sulfonate. It should be noted that Kawata et al do not disclose radiation sensitive acid generating agents like those of Fujimori et al. Fujimori et al disclose the use of "... photo-acid generator (b) to be used herein is a compound which generates an acid upon irradiation with actinic rays or a radiation." (see column 51, lines 50 to 52, with examples being shown from column 51, line 53 to column 73, line 29). The Patent Office then

concludes that it would have been obvious to include a photosensitive agent as disclosed by Kawata et al within the composition of Fujimori et al.

In order for the Patent Office to establish a prima facie case of obviousness, it must show that each and every limitation of the claim is described or suggested by the cited documents. Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. The analysis supporting obviousness should be made explicit and should identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the manner claimed.

The photosensitizing agents that the Patent Office mentions as being disclosed by Fujimori et al are not photosensitizing agents. The passage referred to by the Patent Office, column 76, lines 20 to 40, disclose spectral sensitizers, materials that sensitize in the ultraviolet or visible regions of the spectrum. These materials do not change their chemical structure after irradiation. The quinonediazide materials of Kawata et al change chemical structure after irradiation. Thus, the materials in Fujimori et al are completely different than those in Kawata et al.

In the present situation, there is no fact based reasoned analysis provided by the Patent Office of Fujimori et al and Kawata et al that would lead a skilled artisan to come to the conclusion to include the photosensitive agent of Kawata et al in Fujimori et al. No explicit reasons have been proffered by the Patent Office to support the alleged combination of Fujimori et al and Kawata et al. Since Fujimori et al disclose the use of photo-acid generators (see column 51, line 50 to column 73, line 29) as well as the admission by the Patent Office that Fujimori et al do not use a photosensitizing agent

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comprising a quinonediazide, and Kawata et al use a photosensizing agent comprising a quinonediazide, the Patent Office is using hindsight reconstruction to reject applicants' claims.

The Patent Office cannot use hindsight reconstruction to pick and choose among Fujimori et al and Kawata et al to deprecate applicants' claimed invention. The suggestion to combine Fujimori et al and Kawata et al must not be derived by hindsight from knowledge of the invention itself. All limitations of the claimed invention must be taught or suggested by the cited documents to suggest the particular combination. Hindsight is inferred when the specific understanding or principal within the knowledge of one of ordinary skill in the art leading to the modification of the cited documents in order to arrive at applicants' claimed invention has not been explained.

In addition, the analysis in support of an obviousness determination should identify a reason that would have prompted a person of ordinary skill in the art to combine the elements in the manner claimed. All the Patent Office has done is provided a conclusory statement without any explanation to support the combination of Fujimori et al and Kawata et al. all the Patent Office has done is found documents that disclose claimed features on a piecemeal basis in isolation. The Patent Office's conclusion of obviousness is not supported by a reasonable basis in the documents themselves. All applicants are left with is the pos' after the fact unsupported conclusionary statements. An obviousness rejection based on conclusionary statements and not demonstrable evidence is insufficient to support a prima facie case of unpatentability.

The Patent Office's rejection of the claims is based on the knowledge imparted by applicants' claims, not the cited documents. Fujimori et al do not disclose quinonediazide

photosensitive agents and Kawata et al do not disclose the radiation sensitive acid generating agents. A skilled artisan clearly would not combine these documents.

Furthermore, neither Fujimori et al nor Kawata et al disclose a resin or compound which in itself is insoluble or slightly soluble in alkali, but becomes soluble in alkali by the action of an acid, the resin or compound having a structural unit represented by general formula (I). The Patent Office provides no reason why or how a skilled artisan could alter the resins in either Fujimori et al or Kawata et al to include a structural unit represented by general formula (I). There is nothing in either Fujimori et al or Kawata et al, alone or combined, that would teach combining these documents as suggested by the Patent Office, in the absence of applicants' application. The rejection is traversed and withdrawal thereof is requested.

Also in the Office Action, the Patent Office rejected claims 6, 13, 14, 18, and 20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fujimori et al (US 6207343) in view of Kawata et al (US 5912102) further in view of Nitta et al (US 2002/0045130). This rejection is traversed.

Fujimori et al and Kawata et al are discussed above. Neither Fujimori et al nor Kawata et al mention the use or the need for using crosslinking materials in their systems. Fujimori et al provide etch resistance data (column 87, line 43 to column 88, line 37), but do not use any sensitizers in the evaluated materials. Kawata et al mention that its photosensitive material is excellent among various properties, including resistance to dry etch (see column 2, lines 28 to 35). Kawata et al do not report any data on etch resistance.

Nitta et al have an object to improve the dry etch resistance of its photoresist composition (see [0009]) but do not make any demonstration of improved dry etch. Nitta et

al also state that "[w]hile the crosslinking polyvinyl ether compound as the component (C) has an effect to decrease the storage stability of the inventive photoresist composition, this effect of stability decreasing can be compensated by the combined use of the components (D) and (E)." (see [0049]; emphasis added). Thus, Nitta et al teach that the addition of polyvinyl ether compounds has a deleterious effect on its photoresist compositions. In Fujimori et al, vinyl ether polymers were used as comparative examples (see column 85, line 48 to column 86, 32) in the etching evaluation as mentioned above. The comparative examples "... leave something to be desired particularly in the smoothness of the surface of resist and the dry etching resistance of resist." (see column 88, lines 35 to 37). As Nitta et al teach away from adding polyvinylether compounds because of deleterious effects and Fujimori et al disclose poor performance of vinyl ether polymers, a skilled artisan would not be motivated to combine Nitta et al with Fujimori et al and Kawata et al as it is an error to find obviousness when documents diverge from and teach away from applicants' invention. Why would a skilled artisan add polyvinylether compounds to its compositions knowing that such compounds have a deleterious effect?

Furthermore, Nitta et al do not disclose a compound containing at least two vinyloxyalkylester groups used by applicants. Nitta et al disclose that their crosslinking polyvinyl ether compound is represented by the formula $X(-O-CH=CH_2)_n$ (see [0035]-[0036]) where n is an integer of 2, 3, or 4 and X is an n -valent hydrocarbon residue derived from a polyhydric hydrocarbon compound having n hydroxyl groups by eliminating n hydrogen atoms of the hydroxyl groups. The vinyloxyalkylester is not disclosed or contemplated by Nitta et al and there is no suggestion or teaching to the skilled artisan in Nitta et al to insert a $-(C=O)-$ moiety between X and O of Nitta et al's polyvinyl ether compound to arrive at applicants' vinyloxyalkylester compound.

In addition, since neither Fujimori et al nor Kawata et al mention the use of crosslinking materials, the Patent Office is using hindsight reconstruction to reject applicants' claims. The Patent Office cannot use hindsight reconstruction to pick and choose among isolated disclosures in the cited documents to deprecate applicants' claimed invention. The suggestion to combine Fujimori et al, Kawata et al, and Nitta et al must not be derived by hindsight from knowledge of the invention itself. All limitations of the claimed invention must be taught or suggested by the cited documents to suggest the particular combination. Hindsight is inferred when the specific understanding or principal within the knowledge of one of ordinary skill in the art leading to the modification of the cited documents in order to arrive at applicants' claimed invention has not been explained.

The analysis in support of an obviousness determination should identify a reason that would have prompted a person of ordinary skill in the art to combine the elements in the manner claimed. All the Patent Office has done is provide a conclusory statement without any explanation to support the combination of Fujimori et al, Kawata et al, and Nitta et al.

The Patent Office has presented no line of reasoning as to why a skilled artisan, when viewing Fujimori et al, Kawata et al, and Nitta et al, would have found it obvious to selectively pick and choose various elements and/or concepts from the cited documents to arrive at applicants' claimed invention. The Patent Office has done little more than cite Fujimori et al, Kawata et al, and Nitta et al to show that one or more elements or some combination thereof, when each is viewed in a vacuum, is known. Applicants' invention is a new combination of elements. To support a conclusion of the claimed combination is directed to obvious subject matter, either Fujimori et al, Kawata et al, and Nitta et al must expressly or impliedly suggest the claimed combination where the

Patent Office must present a convincing line of reasoning as to why a skilled artisan would have found the claimed invention to be obvious in light of the teachings of the cited documents. The mere fact that documents can be combined or modified does not render the resultant combination obvious unless the documents also suggest the desirability of the combination. Furthermore, it is not unreasonable to require the cited documents to provide some reason to alter a known chemical composition in a particular manner to establish the obviousness of a claimed chemical composition. The Patent Office has not presented a convincing line of reasoning (it is not clear whether the Patent Office has provided any line of reasoning) to combine the cited documents. In addition, there is suggestion in the cited documents to combine them to render applicants' invention obvious.

The Patent Office's rejection of the claims is based on the knowledge imparted by applicants' claims, not the cited documents since no crosslinking materials are mentioned in Fujimori et al or Kawata et al and Nitta et al teach that adding polyvinylether compounds cause deleterious effects, which have to be fixed by the addition of additional materials. A skilled artisan clearly would not combine these documents. The rejection is traversed and withdrawal thereof is requested.

Also in the Office Action, the Patent Office rejected claims 5, 15, and 19 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fujimori et al (US 6207343) in view of Kawata et al (US 5912102) and in view of Nitta et al (US 2002/0045130) and further in view of Iwanaga et al (US 5962180).

Fujimori et al, Kawata et al, and Nitta et al are discussed above.

From the Office Action dated, September 11, 2007, the Patent Office admitted that Iwanaga et al do not disclose the use of a photosensizing agent comprising a quinonediazide. It should also be noted that Kawata et al do not disclose radiation sensitive acid generating agents like those of Iwanaga et al (see column 6, lines 33 to 39 of Iwanaga et al). Iwanaga et al mention five different types of radiation sensitive acid-generating agents (see column 6, lines 33 to 39), none of which are remotely related to a photosensitizing agent containing a quinonediazide group. Iwanaga et al even show an example with two different radiation sensitive acid-generating agents (Ex. 11 in Table 3), but this example showed no better results than Iwanaga et al's examples using one radiation sensitive acid-generating agent. In addition, Iwanaga et al do not disclose a resin or compound which in itself is insoluble or slightly soluble in alkali, but becomes soluble in alkali by the action of an acid, the resin or compound having a structural unit represented by general formula (I).

Given the disparity amongst Fujimori et al, Kawata et al, Nitta et al, and Iwanaga et al, the Patent Office is using hindsight reconstruction to reject applicants' claims. The Patent Office cannot use hindsight reconstruction to pick and choose among isolated disclosures in the cited documents to deprecate applicants' claimed invention. The suggestion to combine Fujimori et al, Kawata et al, Nitta et al, and Iwanaga et al must not be derived by hindsight from knowledge of the invention itself. All limitations of the claimed invention must be taught or suggested by the cited documents to suggest the particular combination. Hindsight is inferred when the specific understanding or principal within the knowledge of one of ordinary skill in the art leading to the modification of the cited documents in order to arrive at applicants' claimed invention has not been explained.

The analysis in support of an obviousness determination should identify a reason that would have prompted a person of ordinary skill in the art to combine the elements

in the manner claimed. All the Patent Office has done is provide a conclusory statement without any explanation to support the combination of Fujimori et al, Kawata et al, Nitta et al, and Iwanaga et al

The Patent Office has presented no line of reasoning as to why a skilled artisan, when viewing Fujimori et al, Kawata et al, Nitta et al, and Iwanaga et al, would have found it obvious to selectively pick and choose various elements and/or concepts from the cited documents to arrive at applicants' claimed invention. The Patent Office has done little more than cite Fujimori et al, Kawata et al, Nitta et al, and Iwanaga et al to show that one or more elements or some combination thereof, when each is viewed in a vacuum, is known. Applicants' invention is a new combination of elements. To support a conclusion of the claimed combination is directed to obvious subject matter, either Fujimori et al, Kawata et al, Nitta et al, and Iwanaga et al must expressly or impliedly suggest the claimed combination where the Patent Office must present a convincing line of reasoning as to why a skilled artisan would have found the claimed invention to be obvious in light of the teachings of the cited documents. The mere fact that documents can be combined or modified does not render the resultant combination obvious unless the documents also suggest the desirability of the combination. Furthermore, it is not unreasonable to require the cited documents to provide some reason to alter a known chemical composition in a particular manner to establish the obviousness of a claimed chemical composition. The Patent Office has not presented a convincing line of reasoning (it is not clear whether the Patent Office has provided any line of reasoning) to combine the cited documents. In addition, there is no suggestion in the cited documents to combine them to render applicants' invention obvious.

The Patent Office's rejection of the claims is based on the knowledge imparted by applicants' claims, not the cited documents given the disparity in teaching amongst Fujimori

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et al, Kawata et al, Nitta et al, and Iwanaga et al. A skilled artisan clearly would not combine these documents. The rejection is traversed and withdrawal thereof is requested.

Applicants submit that the concerns of the Patent Office have been addressed. Withdrawal of the rejections and issuance of a Notice of Allowance is respectfully solicited.

Respectfully submitted,

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